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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
WOOD, ELLEN S	

ART UNIT	PAPER NUMBER
1794	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/523,130	BERNIG ET AL.	
	Examiner	Art Unit	
	ELLEN S. WOOD	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5, 7-21 and 23-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-21 and 23-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 6-13, 15-21 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh et al. (US 5,763,095, hereinafter "Ramesh") in view of Edwards et al. (US 2002/0034622, here in after "Edwards").

In regards to claim 1, Ramesh discloses a multilayer film having a combination of relatively low oxygen transmission and relatively high carbon dioxide transmission (col. 1 lines 5-8). The structures contain layers that comprise EVOH and CPA-3 (col. 13 example 9). CPA-3 refers to a nylon 6.6/6,9/6I terpolymer (col. 7 lines 37-30), where the terpolymer comprises hexamethylene amide (col. 4 lines 5-6), which corresponds to applicants "multipolyamide" comprising component I as the 6,6, component II as the 6,9 and.or 6,10 and component III as the 6I. The preferred terpolymers include 66/69/61, where 1 refers to isophthalic acid mer, 66/69/6T, 66/610/61, and 66/610/6T (cols. 3-4 line 67 and lines 1-4). Ramesh discloses that the nylon copolymer used in the film may be blended with another resin (col. 5 lines 1-2). The nylon copolymer may be blended with another oxygen barrier resin such as ethylene vinyl alcohol copolymer (EVOH) in order to achieve a desired set of properties (col. 5 lines 3-5). Because EVOH loses much of its oxygen barrerir properties with increasing relative humidity, the overall

CO_2:O_2 transmission ratio during cure would not be greatly affected; but, the oxygen barrier during storage, when oxygen barrier properties become important, would be increased (col. 5 lines 6-10). That is, the addition of ***at least*** a minor portion of EVOH to a nylon copolymer-containing layer of the film of the present invention would serve to lower the oxygen transmission rate of the total film structure at low relative humidities (col. 5 lines 10-14). In example 11, the amount of EVOH used was 10% (cols. 15-16).

In regards to claim 2, Ramesh discloses a multilayer film comprising of a terpolymer that comprises 10-60% by weight hexamethylene adipamide, 10-60% by weight polyamide mer and 10-60% by weight hexamethylene isophthalamide mer (col. 4 lines 4-7). The examiner notes that the instant claims are in mol%, however, the compounds are comparatively the same and the conversion between percent by weight and mol% would be comparatively the same. The ranges of Ramesh are within the majority of the broad range in the applicants claim.

In regards to claims 3-4, Ramesh discloses that it is preferred the terpolymer in the multilayer filme comprises 20-50% by weigh hexamethylene adipamide mer, 20-50% by weight polyamide mer, and 10-40% by weight hexamethylene isophthalamide mer (col. 4 lines 8-11). These ranges are within the majority of the broad range of the applicant.

In regards to claims 5, 24 and 25, Ramesh discloses that the EVOH used in the multilayer film is an ethylene vinyl alcohol copolymer having 44-mole percent ethylene (col. 8 lines 5-6).

In regards to claims 6-7, Ramesh discloses that the nylon copolymer may be blended with another oxygen barrier resin such as ethylene vinyl alcohol copolymer (EVOH) in order to achieve a desired set of properties (col. 5 lines 1-5). The blends can range from 1-99% of the partially aromatic nylon and 99-1% of the second material, more preferably 25-75% of the partially aromatic nylon and 75-25% of the second material (col. 5 lines 41-44).

In regards to claim 11, Ramesh discloses a film that contains and EVOH and nylon copolymer-containing layer that lowers the oxygen transmission rate of the total film structure (col. 5 lines 10-14). The film contains an oxygen gas barrier layer with at least 2 outer layers (col. 13 example 9).

In regards to claim 12, Ramesh discloses that a tie layer is provided between said nylon copolymer layers and said further polymeric layer. The adhesive layer comprises a modified polyolefin capable of adhering to each of said nylon copolymer layer and said further polymeric layer (col. 20 claim 14). The coupling agent layer in the applicants claim is preferably a modified polyolefin (pg. 6 lines 13-15). Thus, the adhesive layer is comparatively the same as the coupling agent layer, because of the use of a polyolefin in both Ramesh and the applicant.

In regards to claim 13, Ramesh discloses that the tie layers of the film comprise modified polyamides and modified polyolefins (col. 6 lines 63-65). The modified polyamides refer to polymers having anhydride functionality grafted onto (col. 3 lines 33-36). A specific example is "modified ethylene vinyl acetate copolymer" (col. 3 lines 29-30). The polyolefin is LLDPE (col. 2 lines 43-46).

In regards to claim 15, Ramesh discloses that the film is stretched either in a longitudinal direction, a transverse direction, or both (col. 1 lines 42-55).

In regards to claim 16, Ramesh discloses that the film is partially or completely cross linked (col. 6 lines 4-5).

In regards to claim 17, Ramesh discloses that the film is to incorporate a shrink feature (col. 1 lines 48-49).

In regards to claim 18, Ramesh discloses that the film material is suitable for using in packaging oxygen sensitive products which emit carbon dioxide gas, such as high gassing cheeses (abstract).

In regards to claim 19 and 21, Ramesh discloses that it is common in the packaging of high gassing chesses to package the cheese product in a film, cure the cheese, and then store the cheese, prior to purchase by the consumer (col. 4 lines 30-35). Thus, the process of curing the cheese after packaging implies that the cheese is still ripening.

In regards to claim 20, Ramesh discloses that the film material is used to package cheese (abstract). It would be obvious to one of ordinary skill in the art that cheese can be either semi-hard or hard.

In regards to claim 26, Ramesh discloses that the outer nylon layers are heat sealable (col. 20 lines 57-58).

Ramesh is silent with regards to the use of the mixture of EVA and LLDPE and the packaging film being a pouch.

In regards to claims 9-10, Ramesh discloses the nylon copolymer of the film material of the present invention may be blended with other polymer material in order to achieve or optimize one or more desired film properties (col. 5 lines 33-36). The specific resins that may be employed include ethylene, propylene and butane homopolymers and copolymers, both heterogeneously and homogenously catalyzed (col. 6 lines 35-38). A layer of EVA-2 and HDPE is used in the multilayer structure (col. 13 example 9). It would be obvious to one of ordinary skill in the art to provide a layer, which comprises EVA and LLDPE to produce a more flexible multilayer film material than that when HDPE is used in the film.

In regards to claim 23, Ramesh discloses a packaging film (col. 1 line 5). The packaging film is used to allow cheese to ripen over time before sold to the consumer. The nylon layers are heat sealable (col. 20 lines 57-58). It would be obvious to one of ordinary skill in the art at the time of the invention that the packaging film is heat sealable, thus would be able to form closed sides to form a pouch structure. Also, a pouch is a conventional packaging method.

Ramesh is silent with regards to the exact percentages claimed by applicant of the blend of the polyamide and EVOH.

Edwards discloses a package for foodstuffs that produce gas, particularly CO_2 respiring foodstuffs, especially cheeses [0002]. The invention is a multilayer film having a high carbon dioxide permeability and relatively low oxygen permeability which is controlled by a thin core layer [0038]. The core layer is a blend of EVOH and nylon [0041]. The core layer comprises a blend of about 30-80 wt% of ethylene vinyl alcohol

copolymer and about 20-70 wt% nylon [0047]. The ethylene content of the EVOH is about 39 mol% or higher [0047]. The core layer when used for a low CO_2 permeability application will generally have a greater amount of EVOH and lesser amounts of nylon to produce a film having a low CO_2 gas transmitting rate, particularly when using an EVOH copolymer having an ethylene content of about 48 mol% [0055]. The appropriate blend proportions to achieve the desired level of gas permeability may be determined in view of the present specification without undue experimentation [0055].

The proportions of blending of the EVOH and nylon can be determined by routine experimentation as stated by Edwards. Thus, it would be obvious to one of ordinary skill in the art that the proportions in which the EVOH and nylon are blended to form the core layer of the packaging film of Edwards can used for the oxygen barrier layer of Ramesh to form a package that desires to have a low CO_2 gas transmitting rate, such as cheese packaging.

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh et al. (US 5,763,095, hereinafter "Ramesh") in view of Edwards et al. (US 2002/0034622, here in after "Edwards") in view of Vadhar (US 6,333,061).

In regards to claim 14, the combination of Ramesh and Edwards discloses the packaging film as discussed in the previous section. The combination is silent with regards to a colored coupling agent layer. Vadhar discloses a multilayer film suitable for packaging that contains a tie layer with a polymeric adhesive, an anhydride grafted polyolefins blend, a coloring agent, LDPE and EVA (table 9). It would be obvious to one

of ordinary skill in the art to use the coloring agent tie layer in Vadhar with the multilayer film of the combination of Ramesh and Edward to form a colored package that could be used for marketing strategies.

Response to Amendment

4. The declaration under 37 CFR 1.132 filed 11/25/2008 is insufficient to overcome the rejection of claims 1-21 and 23-26 based upon Ramesh et al. (US 5,763,095, hereinafter "Ramesh") in view of Edwards et al. (US 2002/0034622, here in after "Edwards") as set forth in the last Office action because: the applicant claims that Ramesh discloses only using minor amounts of EVOH when blended for the oxygen barrier layer. However, Ramesh discloses that the nylon copolymer may be blended with another oxygen barrier resin such as ethylene vinyl alcohol copolymer (EVOH) in order to achieve a desired set of properties (col. 5 lines 3-5). Because EVOH loses much of its oxygen barrier properties with increasing relative humidity, the overall CO_2:O_2 transmission ratio during cure would not be greatly affected; but, the oxygen barrier during storage, when oxygen barrier properties become important, would be increased (col. 5 lines 6-10). That is, the addition of ***at least*** a minor portion of EVOH to a nylon copolymer-containing layer of the film of the present invention would serve to lower the oxygen transmission rate of the total film structure at low relative humidities (col. 5 lines 10-14). In example 11, the amount of EVOH used was 10% (cols. 15-16). It clearly is shown that Ramesh discloses that the addition of EVOH does not greatly affected, thus the low oxygen transmission rate already being achieved by the resin is

maintained at high humidities. Also, Ramesh does not recommend that only a minor portion be used in the blend. Ramesh discloses that ***at least*** a minor portion of EVOH be used in the blend, which mean that no less than a minor portion should be used. Thus, Ramesh does not teach away from using greater amounts of EVOH but actually encourages the use of EVOH because it allows the layer to have a stable oxygen barrier properties under high humidities but is advantageous under lower humidities because it lowers the transmission of oxygen.

Response to Arguments

5. Applicant's arguments filed 03/09/2009 have been fully considered but they are not persuasive. See response presented in ***Response to Amendment***.

6. The applicant argues that Edwards recites that only a certain polyamide can be used for the polymer blend.

In response, note that while Edwards do not disclose all the features of the present claimed invention, Edwards is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely, the amount of EVOH that is used in oxygen barrier layer, in order to (motivation) and in combination with the primary reference, discloses the presently claimed invention.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELLEN S. WOOD whose telephone number is (571)270-3450. The examiner can normally be reached on M-F 730-5 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571)272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rena L. Dye/
Supervisory Patent Examiner, Art Unit 1794